**REMARKS**

Claims 1, 3-6, 10, 11, 12, 14, 16-19, 23, 24, 26, 28-31, and 35-40 are all the claims presently pending in the application. Claims 2, 7-9, 12, 15, 20-22, 25, 27, 32-34, and 37 are canceled and new claims 39 and 40 are added. Various claims have been amended.

Applicants also note that, notwithstanding any claim amendments herein or later during prosecution, Applicants' intent is to encompass equivalents of all claim elements.

As best understood, the Examiner considers that claims 1 and 13 "... cover the same thing" and are considered to be duplicative. The Examiner seemingly rejects these claims under a "double patenting" rejection.

Claims 26-31 and 33-37 stand rejected under 35 U.S.C. § 101 as allegedly directed to non-statutory subject.

Claims 1, 4, 6, 12, 17, 19, 31, and 38 stand rejected under U.S.C. § 112, second paragraph, as allegedly indefinite. Applicants believe the above claim amendments appropriately address the Examiner's concerns and respectfully request that the Examiner reconsider and withdraw this rejection.

Claims 1-6, 8, 9, 12-19, 21, 22, 25-31, 33, 34, 37, and 38 stand rejected either under 35 U.S.C. § 102(b) as anticipated by "PetroSPIRE: A multi-modal content-based retrieval system for petroleum applications" by Bergman et al., or under 35 U.S.C. §103(a) as unpatentable over the Bergman, further in view of "Comparing Texture Feature Sets for Retrieving Core Images in Petroleum Application" by Li et al. Claims 10, 11, 23, 24, 35, and 36 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Bergman/Li, further in view of "A Framework for Mining Sequence Database at Multiple Abstraction Levels" by Yu.

These rejections are respectfully traversed in the following discussion.

**I.     THE CLAIMED INVENTION**

An exemplary embodiment of the claimed invention, as defined by, for example, independent claim 1, is directed to a method for storing information for one or more semantic objects derived from raw data. A semantic object extracted from the raw data and classified to

be the semantic object is received, the received semantic object having one or more attributes. At least one of the following is generated: a summary of attributes of the semantic object, by calculating one or more statistics of one or more of the one or more attributes of the received semantic obect; a confidence level of the received semantic object that quantifies a degree of certainty that the received semantic object has been correctly classified and/or labeled; and a compact representation of raw data of the received semantic object. Also generated is indexing information for one or more of the summary of attributes, the confidence level, and the compact representation of the semantic object. The semantic object, along with its associated summary of attributes, confidence level, compact representation, and indexing information is stored in a semantic object database associated with a database storing the raw data.

Conventionally geological seismic survey data has been visualized to assist geologists in tasks, such as for constructing three dimensional reservoir models. This data may be used to directly create images that may be viewed. These images may be annotated and saved. However, the amount of this seismic survey data is very large and it is very difficult to search and analyze the data in order to identify seismic regions that have geological characteristics which are interesting to geologists. Such enormous amounts of data make it very difficult for a geologist to identify features in the geology that is being visualized.

Additionally, the amount of data that is collected has so far outpaced the ability for conventional systems to store the data.

In stark contrast, the present invention provides a semantic object from geological seismic survey data and then summarizes, indexes, and stores attributes of the semantic object. In this manner, the geological seismic survey data may be analyzed much more efficiently and easily.


## II.    THE DOUBLE PATENTING REJECTION

As best understood, the Examiner considers that claims 1 and 13 are duplicative claims and that duplicative claims are subject to a double patenting rejection. Applicants first point out that double patenting applies only between two different applications, not between two claims within a same application.

Second, Applicants point out that claim 13 is dependent off of claim 1 and thereby inherents all features described in its parent claim. However, claim 13 further limits the method described by claim 1 as comprising a method of deploying computer infrastructure, meaning that claim 13 would be addressed to an entity that deployed a computer to implement the method of claim 1. Accordingly, claim 13 has a different scope from claim 1 and is, therefore, <u>not</u> duplicative of claim 1.

In view of the above, Applicants respectfully request that the Examiner reconsider and withdraw this double patenting rejection.

## III.    THE STATUTORY SUBJECT MATTER REJECTION

Claims 26-31 and 33-37 stand rejected as allegedly directed to non-statutory subject matter, based on an alleged legal theory that the Examiner describes as "software *per se*."

In response, Applicants request that the <u>Examiner provide at least one case law citation that describes this "software *per se*" legal construct</u>, since Applicants' representative is not aware of this legal construct or the facts underlying the case holding.

Therefore, until such case law citation is made of record, Applicants decline from further claim amendments directed to distinguishing the presently claimed invention from those facts. In the mean time, Applicants point out that the disputed claims are clearly directed to a process/structure that is clearly described, enabled, and supported in the specification for performing the functions described. Even the term "software", when viewed in the abstract to one having ordinary skill in the art, inherently connotes a functional interaction with a computer.

As such, it is difficult to image what the Examiner's point is for this rejection, since the process and the structure necessary to execute this process are clearly in one or more of the categories specifically listed in 35 USC §101, and any allegations to the contrary can only be considered at this point to be based upon improper arbitrary decisions within the USPTO.

In view of the above, the Examiner is respectfully requested to reconsider and withdraw this rejection.

## IV.    THE PRIOR ART REJECTIONS

### A.    The Bergman et al. reference

Regarding the rejection of claims 1-6, 8, 9, 12-19, 21, 22, 25-31, 33, 34, 37, and 38, the Examiner alleges that the Bergman et al. reference teaches the claimed invention or, alternatively, renders these claims obvious if further modified by Li. Moreover, the Examiner alleges that Bergman/Li, when further modified by Yu, renders obvious claims 10, 11, 23, 24, 35, and 36.

Applicants submit, however, that there are elements of the claimed invention which are neither taught nor suggested by Bergman or any of the other references currently of record.

More specifically, none of these references teach or suggest storing a semantic object database associated with the raw data from which the semantic objects have been extracted, the semantic object database storing the <u>semantic objects along with their associated summary of attributes, confidence level, and indexing information</u>. The Examiner does not allege in the rejection of record that Bergman has such storage feature.

Hence, turning to the clear language of the claims, in Bergman there is no teaching or suggestion of: " ... <u>storing the semantic object along with its associated summary of attributes, confidence level, compact representation, and indexing information in a semantic object database associated with a database storing said raw data</u>", as required by independent claim 1. The remaining independent claims have similar wording.

Therefore, the Bergman et al. reference does not teach or suggest each and every element of the claimed invention and the Examiner is respectfully requested to withdraw this rejection of claims 1-6, 8, 9, 12-19, 21, 22, 25-31, 33, 34, 37, and 38.

### B.    The Bergman et al. reference in view of the Li et al. reference

Regarding the rejection of claims 1-6, 8-9, 12-19, 21-22, 25-31, 33-34, and 37, the Examiner alleges that the Li would have been combined with the Bergman to form the claimed invention. Applicants submit, however, that these references would not have been combined and, even if combined, the combination would not teach or suggest each and every element of the claimed invention, since secondary reference Li fails to overcome the fundamental deficiency

identified above that Bergman fails to even incorporate the feature of identifying semantic objects, let alone the capability of summarizing and indexing them.

Therefore, the Examiner is respectfully requested to withdraw the rejection of claims 1-6, 8-9, 12-19, 21-22, 25-31, 33-34, 37, and 38.


## V.     FORMAL MATTERS AND CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that claims 1, 3-6, 10, 11, 12, 14, 16-19, 23, 24, 26, 28-31, and 35-40, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0510.


Respectfully Submitted,


Frederick E. Cooperrider
Registration No. 36,769

**McGinn Intellectual Property Law Group, PLLC**
8321 Old Courthouse Rd., Suite 200
Vienna, Virginia 22182
(703) 761-4100
**Customer No. 21254**

CERTIFICATION OF TRANSMISSION

     I certify that I transmitted via EFS this Amendment under 37 CFR §1.116 to Examiner H. Pham on October 21, 2008.

                       Frederick E. Cooperrider
                       Reg. No. 36,769